



ADDENDA

**ANSI/ASHRAE Addendum ck to
ANSI/ASHRAE Standard 135-2020**



A Data Communication Protocol for Building Automation and Control Networks

Approved by the ASHRAE Standards Committee on June 28, 2024, and by the American National Standards Institute on June 28, 2024.

This addendum was approved by a Standing Standard Project Committee (SSPC) for which the Standards Committee has established a documented program for regular publication of addenda or revisions, including procedures for timely, documented, consensus action on requests for change to any part of the standard. Instructions for how to submit a change can be found on the ASHRAE® website (www.ashrae.org/continuous-maintenance).

The latest edition of an ASHRAE Standard may be purchased on the ASHRAE website (www.ashrae.org) or from ASHRAE Customer Service, 180 Technology Parkway, Peachtree Corners, GA 30092. E-mail: orders@ashrae.org. Fax: 678-539-2129. Telephone: 404-636-8400 (worldwide), or toll free 1-800-527-4723 (for orders in US and Canada). For reprint permission, go to www.ashrae.org/permissions.

ASHRAE Standing Standard Project Committee 135

Cognizant TC: 1.4, Control Theory and Application

SPLS Liaison: Paul Lindahl

Coleman L. Brumley, Jr.*, <i>Chair</i>	David Fisher	David Robin*
Scott Ziegenfus, <i>Vice Chair</i>	Alexander Gurciullo*	Frank Schubert
Salvatore Cataldi*, <i>Secretary</i>	Bernhard Isler	Steven C. Sill*
Nate Benes*	Thomas Kurowski*	Marcelo Richter da Silva
Steven T Bushby*	Shahid Naem	Ted Sunderland
James F. Butler	Frank Victor Neher*	Lori Tribble
Tyler Cove	Michael Osborne*	Grant N. Wichenko*
Brandon Michael DuPrey*	Scott Reed	Christoph Zeller

* Denotes members of voting status when the document was approved for publication

ASHRAE STANDARDS COMMITTEE 2023–2024

Douglas D. Fick, <i>Chair</i>	Paul A. Lindahl, Jr.	Karl L. Peterman
Kelley P. Cramm	James D. Lutz	Justin M. Prosser
Abdel K. Darwich	Julie Majurin	David Robin
Drake H. Erbe	Lawrence C. Markel	Christopher J. Seeton
Patricia Graef	Margaret M. Mathison	Paolo M. Tronville
Jaap Hogeling	Kenneth A. Monroe	Douglas Tucker
Jennifer A. Isenbeck	Daniel H. Nall	William F. Walter
Phillip A. Johnson	Philip J. Naughton	Susanna S. Hanson, <i>BOD ExO</i>
Gerald J. Kettler	Kathleen Owen	Ashish Rakheja, <i>CO</i>
Jay A. Kohler	Gwelen Paliaga	

Ryan Shanley, *Senior Manager of Standards*

SPECIAL NOTE

This American National Standard (ANS) is a national voluntary consensus Standard developed under the auspices of ASHRAE. *Consensus* is defined by the American National Standards Institute (ANSI), of which ASHRAE is a member and which has approved this Standard as an ANS, as "substantial agreement reached by directly and materially affected interest categories. This signifies the concurrence of more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and that an effort be made toward their resolution." Compliance with this Standard is voluntary until and unless a legal jurisdiction makes compliance mandatory through legislation.

ASHRAE obtains consensus through participation of its national and international members, associated societies, and public review.

ASHRAE Standards are prepared by a Project Committee appointed specifically for the purpose of writing the Standard. The Project Committee Chair and Vice-Chair must be members of ASHRAE; while other committee members may or may not be ASHRAE members, all must be technically qualified in the subject area of the Standard. Every effort is made to balance the concerned interests on all Project Committees.

The Senior Manager of Standards of ASHRAE should be contacted for

- interpretation of the contents of this Standard,
- participation in the next review of the Standard,
- offering constructive criticism for improving the Standard, or
- permission to reprint portions of the Standard.

DISCLAIMER

ASHRAE uses its best efforts to promulgate Standards and Guidelines for the benefit of the public in light of available information and accepted industry practices. However, ASHRAE does not guarantee, certify, or assure the safety or performance of any products, components, or systems tested, installed, or operated in accordance with ASHRAE's Standards or Guidelines or that any tests conducted under its Standards or Guidelines will be nonhazardous or free from risk.

ASHRAE INDUSTRIAL ADVERTISING POLICY ON STANDARDS

ASHRAE Standards and Guidelines are established to assist industry and the public by offering a uniform method of testing for rating purposes, by suggesting safe practices in designing and installing equipment, by providing proper definitions of this equipment, and by providing other information that may serve to guide the industry. The creation of ASHRAE Standards and Guidelines is determined by the need for them, and conformance to them is completely voluntary.

In referring to this Standard or Guideline and in marking of equipment and in advertising, no claim shall be made, either stated or implied, that the product has been approved by ASHRAE.

[This foreword, the table of contents, the introduction, and the “rationales” on the following pages are not part of this standard. They are merely informative and do not contain requirements necessary for conformance to the standard.]

FOREWORD

The purpose of this addendum is to present a proposed change for public review. These modifications are the result of change proposals made pursuant to the ASHRAE continuous maintenance procedures and of deliberations within Standing Standard Project Committee 135. The proposed changes are summarized below.

135-2020ck-1 Add missing formal definitions of ASN.1 datatypes, p. 3

In the following document, language to be added to existing clauses of ANSI/ASHRAE Standard 135-2020 is indicated through the use of *italics* and deletions are indicated by ~~striketrough~~. Where entirely new subclauses are proposed to be added, plain type is used throughout. Only this new and deleted text is open to comment at this time. All other material in this document is provided for context only and is not open for public review comment except as it relates to the proposed changes.

The use of placeholders such as XX, YY, ZZ, X1, X2, NN, x, n, ? etc. should not be interpreted as literal values of the final published version. These placeholders will be assigned actual numbers/letters only after final publication approval of the addendum.

135-2020ck-1 Add missing formal definitions of ASN.1 datatypes

Rationale

To make ASN.1 datatypes consistent and usable as type names.

[Change Clause 21.5, p. 881]

21.5 Application Types

The following types are defined within ASN.1

-- **NULL** , equivalent to [UNIVERSAL 5]
-- **BOOLEAN** , equivalent to [UNIVERSAL 1]
-- **INTEGER** , equivalent to [UNIVERSAL 2]
-- **REAL** , equivalent to [UNIVERSAL 9] ANSI/IEEE-754 single precision floating point
-- **OCTET STRING** , equivalent to [UNIVERSAL 4]
-- **BIT STRING** , equivalent to [UNIVERSAL 3]

-- The following productions are the definitions of the Application datatypes.
-- See Clause 20.2.1.4.

~~— **NULL** — [APPLICATION 0], equivalent to [UNIVERSAL 5]~~
Null ::= [APPLICATION 0] ~~NULL~~ -- equivalent to [UNIVERSAL 5]

~~— **BOOLEAN** — [APPLICATION 1], equivalent to [UNIVERSAL 1]~~
Boolean ::= [APPLICATION 1] ~~BOOLEAN~~ -- equivalent to [UNIVERSAL 1]

Unsigned ::= [APPLICATION 2] INTEGER (0..MAX)

Unsigned8 ::= Unsigned (0..255)

Unsigned16 ::= Unsigned (0..65535)

Unsigned32 ::= Unsigned (0..4294967295)

Unsigned64 ::= Unsigned (0.. 18446744073709551615) -- 0 .. 'the 64th power of two'-1

~~— **INTEGER** — [APPLICATION 3], equivalent to [UNIVERSAL 2]~~
Integer ::= [APPLICATION 3] ~~INTEGER~~ -- equivalent to [UNIVERSAL 2]

~~**INTEGER16** ::= INTEGER (-32768..32767)~~
Integer16 ::= ~~Integer (-32768..32767)~~

~~— **REAL** — [APPLICATION 4], equivalent to [UNIVERSAL 9] ANSI/IEEE-754 single precision floating point~~
Real ::= [APPLICATION 4] ~~REAL~~ -- equivalent to [UNIVERSAL 9] ANSI/IEEE-754 single precision floating point

Double ::= [APPLICATION 5] OCTET STRING (SIZE(8)) -- ANSI/IEEE-754 double precision floating point

~~— **OCTET STRING** — [APPLICATION 6], equivalent to [UNIVERSAL 4]~~
OctetString ::= [APPLICATION 6] ~~OCTET STRING~~ -- equivalent to [UNIVERSAL 4]

~~— **BIT STRING** — [APPLICATION 8], equivalent to [UNIVERSAL 3]~~
BitString ::= [APPLICATION 8] ~~BITSTRING~~ -- equivalent to [UNIVERSAL 3]

-- **ENUMERATED** [APPLICATION 9], equivalent to [UNIVERSAL 10]

[Replace in whole standard except in its own definition in Clause 21.5]

[Note to Editor: Please check for variations in spelling; for example, BITSTRING, or Octet String]

~~NULL~~*Null*
~~BOOLEAN~~*Boolean*
~~INTEGER~~*Integer*
~~INTEGER16~~*Integer16*
~~REAL~~*Real*
~~DOUBLE~~*Double*
~~OCTET STRING~~*OctetString*
~~BIT STRING~~*BitString*

[Add a new entry to History of Revisions, p. 1364]

(This History of Revisions is not part of this standard. It is merely informative and does not contain requirements necessary for conformance to the standard.)

HISTORY OF REVISIONS

...
1	26	Addendum <i>ck</i> to ANSI/ASHRAE Standard 135-2020 Approved by ASHRAE on June 28, 2024; and by the American National Standards Institute on June 28, 2024. 1. Add missing formal definitions of ASN.1 datatypes

POLICY STATEMENT DEFINING ASHRAE'S CONCERN FOR THE ENVIRONMENTAL IMPACT OF ITS ACTIVITIES

ASHRAE is concerned with the impact of its members' activities on both the indoor and outdoor environment. ASHRAE's members will strive to minimize any possible deleterious effect on the indoor and outdoor environment of the systems and components in their responsibility while maximizing the beneficial effects these systems provide, consistent with accepted Standards and the practical state of the art.

ASHRAE's short-range goal is to ensure that the systems and components within its scope do not impact the indoor and outdoor environment to a greater extent than specified by the Standards and Guidelines as established by itself and other responsible bodies.

As an ongoing goal, ASHRAE will, through its Standards Committee and extensive Technical Committee structure, continue to generate up-to-date Standards and Guidelines where appropriate and adopt, recommend, and promote those new and revised Standards developed by other responsible organizations.

Through its *Handbook*, appropriate chapters will contain up-to-date Standards and design considerations as the material is systematically revised.

ASHRAE will take the lead with respect to dissemination of environmental information of its primary interest and will seek out and disseminate information from other responsible organizations that is pertinent, as guides to updating Standards and Guidelines.

The effects of the design and selection of equipment and systems will be considered within the scope of the system's intended use and expected misuse. The disposal of hazardous materials, if any, will also be considered.

ASHRAE's primary concern for environmental impact will be at the site where equipment within ASHRAE's scope operates. However, energy source selection and the possible environmental impact due to the energy source and energy transportation will be considered where possible. Recommendations concerning energy source selection should be made by its members.

ASHRAE · 180 Technology Parkway · Peachtree Corners, GA 30092 · www.ashrae.org

About ASHRAE

Founded in 1894, ASHRAE is a global professional society committed to serve humanity by advancing the arts and sciences of heating, ventilation, air conditioning, refrigeration, and their allied fields.

As an industry leader in research, standards writing, publishing, certification, and continuing education, ASHRAE and its members are dedicated to promoting a healthy and sustainable built environment for all, through strategic partnerships with organizations in the HVAC&R community and across related industries.

To stay current with this and other ASHRAE Standards and Guidelines, visit www.ashrae.org/standards, and connect on LinkedIn, Facebook, Twitter, and YouTube.

Visit the ASHRAE Bookstore

ASHRAE offers its Standards and Guidelines in print, as immediately downloadable PDFs, and via ASHRAE Digital Collections, which provides online access with automatic updates as well as historical versions of publications. Selected Standards and Guidelines are also offered in redline versions that indicate the changes made between the active Standard or Guideline and its previous version. For more information, visit the Standards and Guidelines section of the ASHRAE Bookstore at www.ashrae.org/bookstore.

IMPORTANT NOTICES ABOUT THIS STANDARD

To ensure that you have all of the approved addenda, errata, and interpretations for this Standard, visit www.ashrae.org/standards to download them free of charge.

Addenda, errata, and interpretations for ASHRAE Standards and Guidelines are no longer distributed with copies of the Standards and Guidelines. ASHRAE provides these addenda, errata, and interpretations only in electronic form to promote more sustainable use of resources.